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ABSTRACT

The Hawaiian Language Immersion program (HLI) is described and evaluated. HLI began in 1987 with two small classes on two islands and within 6 years had grown, in response to parent interest, to serve 621 students in grades K-7 in 6 schools on 5 islands. Participating students are taught entirely in Hawaiian until grade 5; in grades 5 and 6 one hour a day of instruction is in English, and immersion may continue into grade 7. The report contains an assessment of the program based on the status of the first sixth-grade cohort of participating students. Data used include: qualitative reading assessment in Hawaiian and English; reading, writing, and mathematics achievement data, tested in English; mathematics achievement, tested in Hawaiian; longitudinal data; comparison of participant and non-participant attitudes; and student, parent, and teacher interview data. An introductory section outlines positive and negative implementation factors influencing the first cohort, then results from the analyses listed above are summarized. Recommendations include: assurance of adequate curriculum materials in the case of program expansion; reconsideration of the policy of teaching English language arts in Hawaiian; further consideration of participant interaction with non-participating students; continued support for the successful programs; better planning for students with special needs. (MSE)

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INDIGENOUS LANGUAGE IMMERSION AS AN ALTERNATIVE FORM OF SCHOOLING FOR CHILDREN OF HAWAIIAN ANCESTRY: LESSONS FROM A SIX YEAR STUDY

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INDIGENOUS LANGUAGE IMMERSION AS AN ALTERNATIVE FORM OF SCHOOLING FOR CHILDREN OF HAWAIIAN ANCESTRY: LESSONS FROM A SIX YEAR STUDY

Preface

The Hawaiian Language Immersion program is a major initiative to reinstate, modernize and preserve the language and culture of Hawai'i through its children. Just started in fall 1987, with two small combination classes of kindergarten and first grade students on two islands, the Hawaiian Language Immersion (HLI) program is an important socio-cultural innovation in public education in Hawaii. By fall 1993, there were 621 students enrolled in HLI in kindergarten through grade seven, in six schools on five of the eight Hawaiian islands. It was in response to parents' desires to have their children's Hawaiian immersion education continued into the elementary school that prompted the state legislature and the Hawai'i Department of Education to offer an immersion program to this group of students. Students in the Hawaiian Language Immersion program are totally immersed in Hawaiian during school hours until grade five and six during which time approximately one hour a day is allotted for instruction through the medium of the English language.

The program was originally offered on a pilot basis in its first year and parents were uncertain how long it would continue, and how many grade levels would be offered in total immersion. However, after a successful first year HLI became a regular, if limited, program in the Hawai'i public elementary schools. It has been evaluated continuously since its inception, and a longitudinal study was planned for following students' progress throughout their elementary and later school years. While the original program was planned only up through grade six, upon parental request the Hawai'i State Board of Education has approved an extension of the program through grade twelve. It is anticipated that some parents, but not all, will elect to have their children continue to participate in an almost total, or partial (if Hawaiian translated materials and subject matter specialists trained to teach in immersion are insufficient) immersion program throughout their intermediate and high school education. In fall 1993, four students had withdrawn to attend private or public intermediate schools and the remaining 14 students continued to participate in Hawaiian Language immersion in grade 7 at their respective elementary schools.

This paper will provide a discussion of the nature and status of HLI as an alternative form of schooling for an increasing number of parents and children in Hawaii, many of whom are ethnically part-Hawaiian, and their struggle both within and outside of the program between a particularistic, a bilingual and/or a pluralistic version of immersion. The paper begins with an introduction explaining the historic context of HLI, followed by information from an evaluation report prepared for the Hawaii State Department of Education about the first cohort, a small group of 18 students at two schools, to complete sixth grade in HLI in spring 1993 (Slaughter et al., 1993). It is believed that the data contained in the evaluation report is important for understanding the context and implementation of immersion in Hawaii. After reporting on the evaluation results, the authors will offer some concluding reflections about the future of HLI, based partly upon the authors' long-term involvement in HLI since the beginning of the program, but also based upon a Long-Range Plan for the Hawaiian Language Immersion Program (Papahana Kaiapuni Hawai'i) that was recently approved by the Hawaii State Board of Education on March 17, 1994.

Introduction

The HLI program is best understood within the rich cultural and historic context of Hawai'i, a state that only 101 years ago was an independent sovereign island kingdom with a flourishing multi-ethnic and bilingually (Hawaiian and English) conducted Hawaiian government, society, and culture. Until the development of the immersion program, Hawaiian had not been used as a medium of instruction in the Hawaiian public schools for almost 100 years. Soon after the overthrow of the Hawaiian monarchy in 1893, by a small group of American businessmen, some of whom were Hawaiian born sons of missionaries, and subsequent events leading up to the annexation of Hawai'i to the United States in 1898, the use of the Hawaiian language was discouraged or banned outright in the government and schools, and replaced by English. At the turn of the century, the indigenous language was denigrated, and many people stopped teaching the language to their children in the hope that their children would be able to succeed in an English speaking world. In this sense, the history of the Hawaiian language is similar to the stories of other ethnolinguistic minorities within the United States. Through the years fewer and fewer of the indigenous people learned to use the Hawaiian language, until in the 1980's it was believed that fewer than 1,000 first language speakers of Hawaiian

remained. The fear that the Hawaiian language was becoming extinct, and with it the loss of the culture, has been the primary motivation for initiating an immersion program in the schools. For the Hawaiian people who are involved in the immersion movement, the HLI program is a necessary part of their own linguistic and cultural survival.

Despite the similarities between the Hawaiian language situation and that of other indigenous languages, there are some important aspects of the Hawaiian language and culture, and of public schooling in Hawai'i, that are unique and which have contributed to the success of the program. First, *literacy* in the Hawaiian language was an important part of 19th century Hawaiian society. With the coming of the Christian missionaries to Hawaii in the early 19th century, an orthography was created for Hawaiian and a printing press published textbooks, bibles, hymnals and many newspapers in Hawaiian. Many of these materials, especially the newspapers that were published in Hawaiian during the 19th century, provide rich archival materials for 20th century scholars of Hawaiian. The Hawaiian royalty was strongly in favor of the population becoming literate in Hawaiian, and the population quickly "took to literacy" (Daws, 1968). Literacy in Hawaiian was an essential requirement for becoming a member of the Protestant Church, and this was strongly supported by the monarchy (Allen, 1982). Literacy education in Hawaii was first directed at adults. Due to royal decree, the adult population were instructed in Hawaiian literacy in over 1,000 schools set up for the purpose of establishing universal adult literacy and it is estimated that by 1830 at least half of the adult population could read and write in Hawaiian (Menton & Tamura, 1989). After 1830, schools were established for children in which the medium of instruction, in most cases, was in Hawaiian. While many of the *ali'i*, or royal, children were educated in both Hawaiian and English, they also maintained a very high level of Hawaiian language and literacy, thus serving as exemplars of bilingualism in the Hawai'i of the past. Despite all this, even in the 19th century, Hawaiian language and culture was seen as losing ground to English and western traditions. This tension between the practical need for maintaining a bilingual/bicultural perspective, and the competing desire to protect the integrity and strength of the Hawaiian language and culture as an independent entity, has continued to the present time, and creates a tension within the HLI program as well. Recently, a resurgence of a call for a return of Hawaiian sovereignty has added another dimension to the complex nature of HLI.

Immersion programs, where children are immersed in a second language that is not the language of the home or (sometimes) of the community, are often presented as simply "parallel" to the curriculum that is found in the English medium program (California State Department of Education, 1984). However, although the goals of the Hawaiian Language Immersion program include having students be bilingually proficient in Hawaiian and English, and offering students the full range of curriculum through the medium of Hawaiian, the thrust of curriculum development over the life of the HLI program has suggested that the Hawaiian language community, teachers and parents expect more in terms of a Hawaiian-centric focus to the curriculum than a "parallel" or "translated version" of the English medium curriculum perspective would suggest.

Evaluation of the First Cohort to Complete Sixth Grade in the Hawaiian Language Immersion Program

Background

As mentioned above, in fall 1987, a small group of first grade students at two of Hawai'i's public elementary schools participated in the first early total language immersion program in the state of Hawai'i. The story of the beginning years and the struggle of the first immersion teachers to provide a full elementary to children through immersion indicated that teachers were highly committed to the total immersion model, despite a lack of advance planning for the program, and a severe shortage of translated Hawaiian print materials. (Slaughter, forthcoming; Slaughter, Watson-Gegeo, Warner and Bernardino, 1988)

There were six (6) first grade students in a combination class of 16 kindergarten and first grade students in the Hawaiian Language Immersion (HLI) classroom at Keaukaha Elementary School in Hilo, Hawai'i and seven (7) first grade students in a combination class of 18 kindergarten and first grade students in the immersion classroom at Waiau Elementary School, Pearl City, Oahu. Of the 13 first grade students, combining the groups at both schools, who formed the oldest group in the first HLI cohort, six or slightly under half, had attended Punana Leo, a private Hawaiian language immersion preschool that had been started by parents and Hawaiian language educators in 1985. Participation in the program was remarkably stable, and retention has been high in the program as a whole. Over the six years, from grade one to grade six, none

of the original 13 students withdrew permanently from the program, even the one student who was retained, and six late entrants joined the class, for a total of 18 students graduating from Hawaiian Language Immersion in grade six. Although not a requirement for admission into HLI, since this is a public school program, the vast majority of participating students are of Hawaiian ancestry.

This present report contains the results and interpretation of a midway through longitudinal study for only this first small group of students, called by some, the "pioneer" group. It has been important to caution decision-makers that the evaluation of the first sixth grade *"is not a summative evaluation of the Hawaiian Language Immersion Program, but rather, it is a progress report concerning the status of a small group of students who formed the top half of the combination classes who participated in the very first year of the program."* At this time, an evaluation of HLI can be only a partial indication of the impact of the immersion program because the first cohort of students has each year participated in a curriculum that is being implemented that was just being developed, and it has been difficult, if not impossible, for the Hawai'i Department of Education to provide a Hawaiian language medium curriculum which is "parallel" to the one students would have received in English medium classrooms. This has been due to several factors, including: 1) lack of translated and/or original printed curriculum materials on a timely basis in the medium of the Hawaiian language, 2) necessary experimentation concerning the direction and content of the curriculum, 3) inexperience of some teachers in teaching, and of all teachers, in the beginning years, in teaching through Hawaiian, and 4) continuous placement of the first cohort of a small group of older students in the same combination classroom with younger students. Therefore, this first small cohort, and the next several grade levels as well, cannot be said to be representative of the other larger groups who will follow it and who will, hopefully, have had the benefit of more extensive program development efforts, teacher training, and Hawaiian language curriculum materials and books that has been accomplished over the last six years.

On the other hand, the first cohort has had several advantages which include: 1) being the focus of favorable attention for their remarkable fluency as speakers, and developing readers and writers of Hawaiian, 2) participating in a program that emphasizes Hawaiian culture and values and builds self-esteem for children of Hawaiian ancestry, 3) benefiting from small group instruction with low adult to student ratios, and 4) close communication between teachers and

parents regarding student progress. A summary of program implementation features influencing the outcomes of this evaluation, and importance to its interpretation is included later in this report.

Evaluation Design. This report presents data concerning the achievement and attitudes of 18 HLI students who completed grade six in spring 1993.

Participating students. These students began HLI in grade one, not in kindergarten, since this was the first year of the program. Parental support of the HLI program has been very high, despite concern over the need for more Hawaiian language curriculum materials and teachers. A strong indication of parental support and loyalty to the program is the fact that all of the students, except one, who entered the program in first grade in fall 1987, remained in the program in grade six in spring 1993. The one exception was a student who repeated first grade and who is still in the HLI program in grade six. In addition, several students entered the program in grades two or three, several students transferred to an immersion school on a different island but remained continuously in HLI, and one student, after transferring for three years to a school without an immersion classroom at the appropriate grade level, transferred back into immersion in grade six. In summary, all of the students had been in HLI for at least three years, and 11, (61%) of the students had been in HLI continuously since fall 1987.

A case study approach. A case study approach at the cohort level has been used in this study. While many immersion studies contain "matched" control or comparison groups, due to the small number of students in this cohort, and the large number of district exceptions (students electing not to attend a neighborhood school in order to enter immersion), it was not feasible to construct a valid and fair experimental comparison group for this study. Instead, an in-depth and comprehensive multi-faceted data-base has been constructed for the first cohort of HLI students.

Assessment. Assessment data contained in this report includes:

1. Individually administered qualitative reading assessment data on the Qualitative Reading Inventory (QRI) (Leslie & Caldwell, 1990), for 12 sixth grade students in English and for 8 of these students on a parallel measure in Hawaiian, for end of grade six, spring 1993.
2. Reading, writing, and mathematics achievement test data for the end of grade six, spring 1993, on the Stanford Achievement Test written and administered in English.

3. Mathematics achievement test data for the end of grade six, on a Hawaiian translation of the Metropolitan Achievement Test 6 Intermediate level (MAT/6), for students at one of the two schools.
4. Longitudinal data from the Stanford Achievement Test administered in 1990 when students were in grade 3, and were still totally immersed in Hawaiian. Other longitudinal data, will be referred to but not presented in full in this report from individual English and Hawaiian reading assessments using an alternative assessment procedure from earlier, when students were in grades 2-5 for a sample of sixth grade students who have been in the program the longest. This data includes samples of student writing from the longitudinal data base. In an attempt to keep this report from becoming unduly lengthy, this data will not be presented here but can be found in other reports.
5. Attitude assessment data for sixth grade HLI students and for two comparison English medium sixth grade classrooms, one at an immersion school site, Keaukaha Elementary in Hilo, and one from a non-immersion school site, in Honolulu.
6. Additional information for this report comes from interviews of students, parents and teachers. Background information for substantiating and interpreting this report is found in previous evaluations of the program.

Hawaiian Language Immersion Program Implementation Factors

The Hawaiian Language Immersion Program is a program that is highly innovative and has inspired a high degree of involvement by parents and the Hawaiian language community in program development and setting the direction for the program. Teachers have been involved to an unusual degree in providing leadership to the program at the school site level and in developing curriculum for the program. However, after 100 years of neglect of the Hawaiian language in the public schools in Hawaii, and the gradual demise of the language outside of Hawaiian language educator and university circles (except on the small island of Ni'ihau), it has been a formidable task to bring together the resources necessary for implementing a total immersion program through the Hawaiian language.

Every innovative program experiences several years when the start-up procedures necessary for a new program require an unusual degree of energy

and commitment, and when many things must be worked out through trial and error, but few programs have had the obstacles that the lack of available materials in Hawaiian has presented to teachers and students in the Hawaiian Language Immersion Program (Slaughter, forthcoming). Table 1 presents some of the implementation factors that appear to be relevant to the impact and outcomes of the program on student achievement and attitudes. Notice that some of these factors may have both positive and negative aspects. Furthermore, it is too early to know what the impact is of some program features. Another caution in interpreting the items in Table 1 is that program implementation is somewhat different at each HLI school site and grade level, therefore, one cannot always generalize this implementation information to the entire HLI program.

Table 1

Implementation Features Influencing Outcomes for the First Cohort of Hawaiian Language Immersion Students at the End of Grade Six

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Positive Factors

* Students are respected as fluent speakers of Hawaiian
* Students have a high self-concept as speakers of Hawaiian
* High profile class, students actively engaged in positive publicity and dissemination about HLI
* High congruence between parents' values supporting Hawaiian language and culture, and school curriculum
* An 'ohana or family spirit among teachers, children and parents
* High involvement of teachers in curriculum development
* Increasingly attractive curriculum materials and books in Hawaiian (later years)
* High regard for students of Hawaiian ancestry and their academic potential
* High involvement of some parents, and opportunities for all parents to be involved in HLI
* Community support for the HLI Program
* Developing a Hawaiian language community outside of school, such as family camps for the HLI program
* Attrition from the program low and/or non-existent
* Test scores at School B may have been improved by students receiving instruction in test taking skills (this is an approved practice)

Positive and/or Negative Factors and Trade-offs

* High degree of leadership required by lead teachers in HLI in starting and maintaining the program at the school site
* Students have the same teachers for multiple years
* Teachers have the same students for multiple years
* The same small group of students have the same peers for multiple years
* Late entering students into HLI can benefit from the program but places extra burden on teacher
* High degree of uncertainty regarding curriculum production leaves room for innovation but can result in curriculum gaps
* Rapid addition to the Hawaiian vocabulary of newly created words needed to implement an academic curriculum in Hawaiian
* At one school, students were taught English during the English component through the Hawaiian language, resulting in a limited opportunity for students to discuss concepts and information in the English language
* At one school the same HLI teacher taught both the Hawaiian and the English components of the program; at the other school, this happened for part of the sixth grade

Negative Factors

* Multiple years having a teacher who is inexperienced and/or inexperienced at teaching at the grade level and/or in immersion
* Lack of Hawaiian language print materials for teachers and students especially in the area of reading, literature and content area tradebooks, at the appropriate grade level
* Lack of Hawaiian language printed materials in mathematics (textbooks) on a timely basis, at the appropriate grade level (most years)
* Poor quality of some Hawaiian translated materials
* Uncertainty regarding the curriculum for both the current and future years
* Starting each year without adequate curriculum materials
* Teachers are second language speakers of the language
* Necessary changes resulting in instability in teaching staff (addition of untrained teachers)

Other Factors Influencing Achievement Results for Cohort One

* Students entering HLI in grade one in 1987 were a highly selected group, especially at one of the two schools, and are not representative of the program as a whole

* A relatively high percentage (33%) of students in the first cohort were late entrants to HLI
* Almost all of the first cohort of students attended an English medium kindergarten
* Two students at one school have participated for two or more years in the English language Gifted and Talented program at one school, thus increasing the amount of time spent in English language interaction for higher achieving students at one school but not at the other
* At one school, students have participated in the school English library program and have used the library since grade three; the third grade teacher at that school read aloud to students in English and discussed the story in Hawaiian; at the other school, students did not begin to use the school library until grade 5
* Some students have received a great deal of encouragement in their English reading at home and have attended English summer school
* At one school, tutoring has been provided for students
* Some students attend the A+ after school program and receive extra Hawaiian language interaction, and/or English reading instruction
* Some students in the first cohort began reading in English in kindergarten in an English medium classroom before entering HLI in grade one
* Some of the sixth grade students have received as much as four years, including kindergarten, of English medium classroom instruction in addition to their three years (or more) of Hawaiian language immersion instruction
* Some of the students in the first cohort are children of Hawaiian language teachers at all levels from preschool to university
* Students at one school were taught English through immersion, while students at the other school were taught English as if it were a Second Language (ESL) through Hawaiian in grades 5 & 6
* Two higher achieving students transferred into a different immersion school than the one they had attended throughout their immersion years, thus complicating the school profiles of each school

The English Component in Grades 5 and 6

The instructional design for Hawaiian Language Immersion calls for one hour of instruction daily in English in grades 5 and 6. Instruction was generally given in English in the area of English language arts and social studies for this hour of instruction. The English component was delivered differently at each of the two schools and reflected different attitudes towards English instruction at the two sites. At School B, English was taught through the medium of the Hawaiian language by the same teacher who taught the children in the remainder of the day through the Hawaiian language. The purpose of this approach was exclusively to promote Hawaiian language development, and to maintain as near as possible a Hawaiian immersion environment, not because English was the students' second language. It was also done because of staffing. However, expecting the same teacher to develop and deliver a complete elementary school curriculum for two grade levels, grades 4 & 5, and grades 5 & 6, fully in Hawaiian for most of the day, and switch into English for part of the day with the same group of students who are otherwise being discouraged from using English, places an undue burden upon a classroom immersion teacher. In addition, this practice of teaching English through another language rather than through English immersion is not following the standard practice used in immersion programs in Canada and elsewhere. It results in much less time spent in learning to use higher level and more specific English vocabulary, and may cause confusion in students' thinking, self-confidence, and writing in English.

Ongoing evaluation research has indicated that English is the first language of all of the students participating in Hawaiian language immersion, with the possible exception of one or two students who were raised from birth to speak Hawaiian. Even these students appeared to have no difficulty in communicating in English. At School A, English was taught in grade 5 by a different HLI teacher who was not the student's regular classroom HLI teacher. English was taught through immersion in a different location from the regular classroom at both sites in grade 5 in order to not include the younger half of the class (then grade 4 students) in the English component. In grade 6 at School A, the same teacher taught both the Hawaiian immersion class and the English component, with the assistance of another HLI teacher assigned as general HLI

curriculum support, for the first semester until the teacher went on sabbatical leave. During the second semester, the student's former grade 5 teacher taught the immersion class and the English component for grade 5 & 6 students. The lead teacher was assisted by the HLI curriculum resource teacher and a student teacher. The method used was English immersion for the English language arts component.

In general, at both schools, the content of instruction emphasized Polynesian and Hawaiian culture, native American culture, and some American history. It also emphasized journal writing, writing narratives and reports, reading children's novels and responding to literature through a variety of activities. When the school program included modules given in English for that grade level of student, such as special media or guest speaker presentations in science or health, this was counted towards the students hour of English instruction. More detailed information concerning the English component is found in the report about transitional English Language Arts in Hawaiian Language Immersion (Slaughter, 1992).

Results for Grade Six Students

Background Data from the longitudinal study.

Results from former evaluation reports indicated that HLI students were learning to read in Hawaiian at an acceptable level for their age and grade placement level, but that their progress was somewhat hampered by a lack of an adequate supply of reading and other curriculum materials at their appropriate age and grade level (see Palmeira in Slaughter et al., 1988, 1990, 1991). Previous research had also indicated that a few HLI students were already reading at grade level in English as early as grade two, and that with each year more HLI students in the first cohort were learning to read in English. This was based upon individual one-on-one assessments of student's oral reading, miscue analysis, and retelling using real storybooks at different grade levels (Slaughter et al., 1988. 1989, 1990, 1991; Slaughter, 1992, 1993).

The interim report for English reading of grade 5 students (spring 1992) indicated that most HLI students, among those assessed, were reading orally at or above grade level, but that half of these students had difficulty retelling and/or answering questions about the stories they had read. The interim report indicated that 10 of the 12 students assessed, or 83%, could read orally a grade 5 or grade 6 narrative passage. Of these 10 students, four or 40% were able to

answer questions at an instructional level, but the remaining six or 60% were only able to answer enough questions correctly to score at a questionable or frustration level on comprehension. However, classroom observations and examination of individual profiles, indicated that even those who had previously had great difficulty in reading English appeared to be improving in their ability to read in English.

The interim report was limited in that some parents requested that their children not participate in the interim assessment in spring 1992 at one of the two schools. The parents of five students at School A requested that their children not be assessed on an individual basis as they did not feel that English assessment was needed at that time. One parent in particular was concerned that the children at School B would not be able to perform well if assessed only in English since the children were being taught English through the medium of Hawaiian. These five students were not included in individual reading assessment in either 1992 or 1993, but were included in group testing and assessment in the spring 1993 evaluation.

Qualitative Reading Inventory: Oral Reading, Retelling and Comprehension

The grade five English reading assessment used the Qualitative Reading Inventory (QRI), an informal reading inventory that was standardized for the age group of students tested, and involved miscue analysis, retelling, and comprehension questions (Leslie & Caldwell, 1990). In that report (1992), the highest level that the students could read orally was listed, followed by their subsequent comprehension level. Because of the discrepancy in the student's oral reading and comprehension scores in the 1992 assessment, it was decided to instead report the highest oral reading level in which students could both read orally (at an instructional or independent level), and answer comprehension questions adequately (at an instructional or independent level). Thus the criteria for judgment was more stringent in the 1993 assessment.

In grade six twelve students (seven at School A and four at School B) were assessed individually in English on the QRI by the principal investigator and a research assistant; eight students at School A were also assessed in Hawaiian on a Hawaiian translation of alternate passages of the QRI by two Hawaiian research assistants. Results indicated that students were able to adequately read at the sixth or seventh grade level in English when assessed on the QRI. At each of the two schools, half of the students were able to read in English and answer

the comprehension questions at a grade six instructional level, and half were able to read and answer the comprehension questions at a grade 7.5 instructional level, or for some, an independent level (Table 2). This was impressive because the passages were relatively complex, and the students often lacked background knowledge about the history or persons that the passage was about previous to reading the passage for the assessment. It should be noted that we expect students to increase in their ability to learn new information from reading text as they get older, therefore, the student's lack of background information about the passages read in the assessment should not be taken as unusual in an assessment task, as long as the passages and the questions are well constructed as they appeared to be in this measure.

Table 2

Reading Level on the QRI in English and Hawaiian for Grade Six HLI Students, Spring 1993

School	N	QRI Reading Level		
		Hawaiian Level 6	English Level 6	English Level 7, 5
School A	4	N/A	2	2
School B	8	8	4	4

Students also performed adequately on the Hawaiian reading assessment. All 8 students who were assessed on parallel passages in Hawaiian were able to read at an instructional level and answer the comprehension questions on the grade 6 level of the test. However, none of the students were able to answer the questions adequately at the Junior High level (7.5) of the Hawaiian assessment. Therefore, at this time, and with a very limited amount of data, it appears that the students are performing adequately in reading bilingually. After two years of only 1 hour or less of English medium instruction a day, their English reading appears to be adequate, and perhaps slightly stronger than their Hawaiian reading for academic purposes, as measured by oral reading, retelling and answering comprehension questions. However, since different passages and questions were used in the English and Hawaiian tests, and there is only one

passage used for each reading level, differences may be at a chance level. In addition, one cannot generalize this to the 5 students at School B who were not assessed. Results on the Stanford Reading Test (SAT) appeared somewhat different, therefore, the differences in the two measures will be discussed in the next section.

Reading on the SAT Compared to Reading on the Qualitative Reading Inventory

Strengths and Weaknesses of Each Approach. In contrast to the above, the SAT measures reading and mathematics based on a group administered, multiple choice test. The purpose of the test is to determine how students' achievement on the test compares to others, nationally and locally, in their same grade level. The reading test is divided into two subtests, vocabulary and reading comprehension, and the mathematics test is divided into three subtests, concepts, computation and applications. Each test, the reading and the mathematics, yields a total subtest score for its domain but the National Commission for the Study of Reading (Anderson 1985) warns discriminating consumers against combining subtests of standardized reading tests to obtain total test scores, since each measures a quite different type of ability or skill. The SAT reading "Comprehension" subtest is more similar to the QRI than the "Vocabulary" subtest in that it contains passages followed by questions, although there are many, many different passages on the SAT and the questions are in multiple choice format in contrast to the QRI which requires an oral response based on full recall or interpretation by the student. Also the SAT requires silent reading, while the QRI involves oral reading. The vocabulary subtest of the SAT measures vocabulary knowledge in the context of a sentence, rather than within a paragraph or longer narrative, so that it is both a more artificial and difficult measure. It is more a measure of the knowledge of the meaning of words, than a measure of the ability to read the words.

The reading comprehension subtest, while different from *real* reading outside of an assessment context, is closer to what is needed when students must read to complete assignments than is the vocabulary subtest. The reading comprehension subtest, while measuring reading differently from the QRI is more similar in intent to the QRI subtest. The weaknesses of one may to some degree counteract the other. The QRI measures reading in a context where a student must "construct" meaning from the test, and has an opportunity to interact naturally with the examiner. The examiner can probe to more fully

investigate the student's thinking and comprehension. In the QRI, the examiner can also review the students retelling as well as his or her answers to questions to gauge comprehension level. Some weaknesses of the QRI is the time required to test each student individually, its reliance upon the skill of the examiner, and because of the time required, an upper limit to how many different passages can be used to assess the child. For instance, one passage of approximately 350 - 400 words was used to assess each reading level; the QRI only goes up to the junior high level, so that a high scoring student cannot be tested on a level that is higher than that level. On the other hand, the SAT reading comprehension subtest uses many different passages, on different topics and each with its separate set of questions, and thus if one of the topics is unfamiliar, others may be familiar, making the test a more representative sample. The test is designed to spread students out on a continuum from extremely high, to average, to extremely low, in a short time period of approximately 30 minutes of test time. The time factor may also influence the performance of immersion students. In addition, the artificiality of the SAT in asking students to read relatively difficult passages one after the other, jumping from one topic to another, and responding to multiple choice questions, some of which may have hidden flaws, also indicates certain weaknesses in the SAT as a measure of reading comprehension.

Reading and Mathematics Results on the SAT

These results will be reported for the entire cohort, followed by results for each cohort at its home school site. In order to keep the focus upon the entire program rather than to compare one school to another which is not the intent of this report, the schools will be called School A and School B. The primary reasons for not comparing programs at different schools is that 1) the groups were not equivalent in terms of the achievement level of students at the beginning of the program, 2) students were not randomly assigned to the two schools, 3) the program is experimental for this grade level and many things about immersion were being learned by trial and error, 4) the schools were not evenly matched in terms of the availability of printed materials in Hawaiian as some years one school had materials that the other did not, and vice versa, 5) one school has the resources of school site KEEP consultants and the other does not, and 6) two higher achieving students transferred into one school during the last year (grade six) from the other site and one had attended an English medium classroom for the previous three years.

Table 3 presents data showing the achievement of 18 sixth grade Hawaiian Language Immersion students on the SAT Total Reading and Mathematics Subtests, scoring below average (stanines 1-3), average (stanines 4-6), and above average (stanines 7-9). For comparison purposes, but not to be taken literally as any type of control group, results for the state of Hawai'i and the normal curve statistics (national norms) are presented also. Hawaiian Language Immersion students total Reading test scores indicated that 44% were in the below average group, compared to 24% statewide, 39% were in the average group, compared to 57% statewide, and 17% were in the above average group, compared to 18% statewide. Hawaiian Language Immersion students' total mathematics test scores indicated that 22% scored below average, compared to 19% statewide, 67% received average stanine scores, compared to 55% statewide, and 11% received above average stanine scores, compared to 26% statewide. In general, HLI students scored at a much higher level in mathematics than they did in reading.

Table 3

Percentage Of HLI Grade 6 Students Scoring Below Average, Average And Above Average On The Stanford Achievement Test, Spring 1993, Reading And Mathematics Tests

Group	Total Reading			Total Mathematics		
	Below Average	Average	Above Average	Below Average	Average	Above Average
HLI	44	39	17	22	67	11
State of Hawai'i	24	57	18	19	55	26
National Norms	23	54	23	23	54	23
School A: HLI (9)	56	33	11	44	56	0
Total School A	17	61	23	12	52	36
School B: HLI (9)	33	44	22	0	78	22
Total School B	36	58	6	19	50	31

Note. Below average is defined as stanines 1-3, average is stanines 4-6, and above average is stanines 7-9.

The results for each of the two HLI schools were markedly different in reading and mathematics but not in writing. Students scored in the average stanine range on the SAT writing test. Students at School A obtained an average of stanine 5.1 in English persuasive writing and students in School B obtained an average stanine of 5.2 in English persuasive writing. The differences in reading and mathematics between the schools may be due in part to some of the implementation factors mentioned above, as well as the initial selection of students in each class. School A scored higher in both reading and mathematics than school B. (However, as will be discussed later, change over time from third grade SAT results to sixth grade SAT results reveal a somewhat different picture of student progress at each school.)

Table 4 presents data concerning HLI student achievement on each subtest separately, and the results from the Reading Comprehension subtest suggests a much more positive picture of HLI student achievement in Reading. As seen in Table 4, 61% of the students achieved at an average level, and 11% achieved at an above average level on the Reading Comprehension subtest, which is the best indicator of reading ability of the two subtests on the Total Reading test. This indicates that HLI students do well in reading real text when it is in the context of paragraph or longer passages of text. The National Commission on the Study of Reading (1985) recommended that it is better to consider each reading subtest separately when using standardized tests to evaluate reading because each subtest measures a quite distinct kind of skill and combining the subtests confuses the interpretation of results.

Table 4

SAT, Spring 1993, Reading and Mathematics Subtest Results for Grade Six, Hawaiian Language Immersion Students, in Percentages Scoring in Stanine Groupings of Below Average (1-3), Average (4-6), and Above Average (7-9)

Group	Reading Vocabulary			Reading Comprehension			Mathematics Concepts			Mathematics Computation			Mathematics Application		
	BA	A	AA	BA	A	AA	BA	A	AA	BA	A	AA	BA	A	AA
Total	56	33	11	28	61	11	22	61	17	22	61	17	22	67	11
School A	67	22	11	44	56	0	44	56	0	33	67	0	11	89	0
School B	44	44	11	11	67	22	0	67	33	11	59	33	0	56	44

Note: There were 18 students total, 9 at one school and 9 at the other. BA refers to below average, A refers to average, and AA refers to above average.

Table 5 lists data regarding the achievement of each student in terms of grade level of entry and organized from highest scoring student in SAT Total Reading to lowest scoring student at each school. This data is presented to show the wide range of individual differences among the first cohort of HLI students. This data indicates that the highest scoring students in English reading include both those who have been in the HLI program from the beginning as well as late entrants into the program. This data also indicates that some of the higher scoring students in the program received special classes in English through the gifted and talented program or because they were late entrants, or spent some time out of HLI in an English classroom. The data indicates that even the lower scoring students in SAT reading received scores in the average stanine level in the SAT writing test. The HLI program includes a great deal of writing in both Hawaiian and English and this appears to have positively influenced students' writing scores.

Table 5

Students SAT Writing, Vocabulary, and Reading Comprehension Scores by the Length of Time in Total Hawaiian Language Immersion

Student	HLI Grade	English Grade	Writ. S	Voc. NP	Voc. S	Read. NP	Read. S	Total NP	Total S
School A									
1	2-6	1	4.2	93	8	72	6	85	7
2	1-6	--	6.0	35	4	60	6	50	5
3	2-6	1	5.8	46	5	47	5	48	5
4	2-6	1,2	6.8	9	2	35	4	23	4
5	1-6	--	5.4	12	3	26	4	18	3
6	1-6	--	4.6	16	3	13	3	11	3
7	1-6	--	4.0	1	1	19	3	7	2
8 (PL)	1-6	--	4.0	3	1	13	3	6	2
9	3-6	1,2	5.0	7	2	4	2	2	1
School B									
10 (PL)	1-6	G&T	5.8	70	6	85	7	89	8
11	2-6	1,G&T	4.4	86	7	79	7	78	7
12 (PL)*	1-6*	--	6.0	65	6	63	6	65	6
13 (PL)	1-2,6	3-5	5.8	31	4	53	5	44	5
14	1-6	--	5.6	38	4	35	4	35	4
15	2-6	1	6.0	20	3	42	5	32	4
16 (PL)	1-6	--	4.6	16	3	26	4	20	3
17 (PL)	1-6	--	4.2	12	3	17	3	13	3
18 (PL)	1-6	--	4.0	1	1	28	4	11	3

Note: *Attendance grades 1-5, HLI at School A. PL refers to Punana Leo.

Table 6 compares the SAT Reading and Mathematics results in terms of percentile scores from testing students in third grade (1990) when they were still totally immersed in Hawaiian instruction, to their performance in grade six (1993) when they had received two years of English instruction for a limited portion of the day. A caveat is offered in interpreting this data as there may be

some regression towards the mean and also the difficulty of the test had changed over the years, as the 1990 test was an older and easier edition and the 1993 test was the latest edition of the SAT and harder. Table 5 indicates that 8 of the 9 (89%) of the students at School A who were taught English through English immersion improved in their total reading SAT test score from grade three to grade six. The one exception was student number 9 who entered the program in third grade and who at that time was having difficulty in English language arts previous to entering HLI. However, two other students who had entered HLI after having had a frustrating time in kindergarten or first grade English reading have shown improvement over time (School A, Student 1; School B, Student 14).

Some of students at School A demonstrated much greater gains on the alternative oral reading and retelling measure, the QRI, than is seen on the SAT results. (All students with the exception of one who was absent were tested on the QRI in English and Hawaiian in 1993, and in previous years.) Indeed, since all of the students were able to read sixth grade material or even junior high level material at an instructional or independent level, their reading development in English is quite remarkable. Also it should be noted that the third highest scoring student listed for School B was a HLI transfer from School A after grade 5. This student, who had read at grade level in every individual English reading assessment beginning in grade 2, had a SAT gain of 39 percentile points from 1990 to 1993.

At School B, 4 of the 7 students (57%) who had attended HLI at that school for five or six years, improved in the total SAT reading score from grade 3 to grade 6. Three students at School B had small losses of 2 to 6 percentile points (a result that appears to be at a chance level) over the three years. In previous assessments during grades 2-4 these students had demonstrated a higher reading ability in English than is reflected on the SAT at the end of sixth grade. The lack of progress in these reading scores may be related to the method of teaching English through Hawaiian that was used at School B. Most students also showed impressive gains over the years on the individual English storybook reading assessment and on the QRI. However, for some of the students at School A, individual English reading assessment data was unavailable.

The differences between grade 3 and grade 6 mathematics scores indicates a different pattern. At school A, 6 of the 9 students, or 67%, showed a loss in mathematics achievement over the three years. Most of these losses were negligible but others were considerable (10 to 40 percentile points lower).

Mathematics scores at School A are below average, and may reflect the lack of mathematics materials that this grade level has encountered over the years, beginning in grade one. Also students at this school did not receive a comprehensive mathematics program in grade two due to lack of textbook materials and instead used a drill and practice program, the Kumon program, as an alternative that year. The HLI evaluation of this program for that year indicated that the Kumon program was holding students back due in part to its procedure of requiring 100% mastery before allowing a student to go on to the next level. Also the Kumon program was a non-verbal program and did not enhance student's learning of mathematics vocabulary in Hawaiian.

At school B, half of the students showed gains and half losses in mathematics over the three years. Some of these differences are small and statistically at a chance level. Of the seven students who have received most of their education in HLI at School B, 3 or 43% scored at a higher level in 1993. Mathematics test scores are relatively high at School B and have remained high over the years. Students at this school may have benefited from receiving small group instruction in mathematics at their grade level as part time teachers have been hired over the years to teach mathematics to one of the two grade levels in the top combination class. Also School B may have received translated Hawaiian mathematics materials sooner than the other school.

Mathematics Results in Hawaiian on the MAT/6

Nine students at School A were tested on the Metropolitan Achievement Tests, Test 6 (MAT/6), Intermediate Level, Form L Mathematics Test, which was translated into Hawaiian. This test was normed for students in grades 5.0 - 6.9. Students at School B were not tested until fall 1993 due to late translations; only the data from School A (nine students) are included in this report.

The results are reported in terms of percentage correct, using a criterion referenced framework since the national norms for English do not apply to the Hawaiian version. Students achieved a mean of 58% correct, or an average of 55.4 items correct out of a possible 95 items on the total test. The results for the separate subtests were 1) mathematics concepts 48%, 2) mathematics problems solving 62%, and mathematics computation 66%. Further discussion of these results, and the data for School B, are found in the forthcoming Sixth Year Evaluation Report.

Table 6

Comparison of Grade 3 (1990) and Grade 6 (1993) SAT Total Reading and Total Mathematics Percentile Scores for Sixth Grade HLI Students

School A	SAT Reading			SAT Math		
Code Names	Gr 3	Gr 6	Diff.	Gr 3	Gr 6	Diff.
1. Late entrant: gr 2	4	85	+81	39	48	+9
2. Kahele	34	50	+16	69	27	-42
3. Late entrant: gr 2	35	48	+13	52	39	-13
4. Late entrant: gr 2	19	23	+4	52	42	-10
5. Kamaile	3	18	+15	23	20	-3
6. Kekai	9	11	+2	16	14	-2
7. Keanu	4	7	+3	42	36	-6
8. Nalei	1	6	+5	5	14	+9
9. Late entrant: gr 3	15	2	-13	10	13	+3
School B						
Code Names						
10. Kamakani	54	89	+35	88	90	+2
11. Late entrant: gr 2	67	78	+11	85	63	-22
12. Kealoha	26	65	+39	79	86	+7
13. Kamanu	-	44	N/A	-	69	N/A
14. Alaka'i	12	35	+23	59	58	-1
15. Late entrant: gr 2	38	32	-6	71	67	-4
16. Kamoana	26	20	-6	49	66	+17
17. Kaleo	3	13	+10	44	43	-1
18. Kapono	13	11	-2	54	55	+1

Note: Code names are used for members of the original grade 1 class. Kealoha and Kamanu transferred to School B for their sixth grade year.

Student Attitudes Towards Language and Culture

Students have been interviewed each year as part of the individualized assessment carried out for reading in Hawaiian and English. In general, students have expressed very positive attitudes towards using the Hawaiian language in the classroom, themselves as speakers of the language, and in general have indicated that they like school. Sometimes during these interviews, students have shared rich cultural experiences and have described how they have become the one in their family to be chosen to carry on the Hawaiian language and culture. Although the large majority of parents are not as fluent and proficient as their children in the Hawaiian language, many children have other relatives or family friends with whom they can speak Hawaiian.

As part of the evaluation, students in grades 5 and 6 were administered a questionnaire that has been used in various immersion programs elsewhere. The attitude scale, ***What Do You Think? Language and Culture Questionnaire,*** was adapted for Hawai'i and used with permission of the Center for Applied Linguistics in spring 1993 (1988). It was administered to the combination grade 5 and 6 classrooms, in a group, by the researcher (Slaughter). Only the grade 6 results (N=18) will be discussed in this report. For an interpretative point of reference, comparison purposes, the questionnaire was also administered by their classroom teachers to one sixth grade English medium class at Keaukaha Elementary School, and to another sixth grade English medium class at a non-immersion school site on Oahu. For purposes of anonymity, the second English classroom will be referred to as Oahu-X. The questionnaire was read aloud to students to be sure that reading ability did not unduly influence the results. A copy of the revised questionnaire may be obtained from the authors.

Results on the questionnaire were generally positive for HLI students, and differences between the two HLI schools were small. In terms of support for Hawaiian language and culture, results from the English medium classroom at Keaukaha were also generally positive, but not as high as for HLI students. Keaukaha is located on Hawaiian homestead land and many of the students claim Hawaiian as part of their ethnic heritage. The HLI program has been at that school for six years, and HLI students have participated in many school activities. Far fewer students at Oahu-X Elementary, which is not on Hawaiian homestead land, claimed Hawaiian as part of their ethnic heritage. However, almost all students in both HLI and non-HLI classrooms named more than one ethnic background in describing their own ethnic identity. Results are presented

for the two English medium sixth grade classrooms combined, and for each separately because of the wide disparity between the responses of students in the two English medium classrooms.

Part A of the attitude scale required students to select their responses from a range of "disagree a lot," disagree a little," "agree a little," and "agree a lot." For purposes of simplicity, the data has been collapsed into two categories, agree or disagree. All of the HLI students (100%) agreed with the following:

1. I enjoy meeting and listening to people who speak other languages.
2. I enjoy learning the Hawaiian language.
8. When I grow up I will try to study the Hawaiian language.
11. I plan to learn as much Hawaiian as possible.
13. I think Hawaiian should be part of every school's program in Hawai'i.
21. I am proud to be a Hawaiian and/or (fill in).
23. I think that it is very important to speak Hawaiian so that Hawaiian language can be preserved.
25. I have learned a lot about Hawaiian culture and values at school.
26. I have learned a lot about Hawaiian history at school.
30. It is easy for me to learn new things at school.

The results for selected examples from the two English medium classes were #1) 14%, #2) 68%, #8) 50%, #11) 50%, #21) 93%, #25) 82%, #26) 76%, #30) 80%. If the two English immersion schools are looked at separately, the English immersion class at Keaukaha had much more positive attitudes as seen in their responses to #2 where 91% indicated they enjoyed learning the Hawaiian language, versus 38% at Oahu-X. Seventy percent (70%), at Keaukaha-English wanted to study Hawaiian when they grew up (item 8), versus 31% at Oahu-X. At Keaukaha, in the English medium classroom, 96% of the students said they had learned a lot about Hawaiian culture and values at school, and 43% said they had learned about Hawaiian history at school. On the other hand, at Oahu-X 68% said they had learned about Hawaiian culture, and 65% agreed they had learned about Hawaiian history.

Hawaiian immersion students expressed positive attitudes toward reading books written in Hawaiian (93%) and books written in English (87%), indicating a strong bilingual, biliteracy orientation towards text. They also expressed a high positive attitude towards learning as much English as possible, (93%) which was more positive than the comparison English medium classrooms (87%). Eighty-

one percent of HLI students stated that it was easier to learn in English (item 17), but somewhat contradictorily, 50% (item 19) said it made no difference. Many HLI students indicated that their parents helped them learn Hawaiian (81%), but only at Keaukaha did English medium students give a positive response (56% versus 2% for Oahu-X).

While HLI students expressed a high regard for their own mixed ethnicity, they expressed a less favorable attitude towards being an American. In the HLI group, 60% said they agreed that they were proud to be an American, while 92% in the English medium classroom groups expressed this value. This may reflect differences in the social studies content presented to students in the HLI program and the English medium program. All groups expressed high positive attitudes towards having friends in their classroom and an 'ohana spirit in the classroom. But it was the HLI students who overwhelmingly believed that others would respect them more if they could speak, read and write Hawaiian (87%).

HLI students expressed similar high positive attitudes towards the Hawaiian language and culture, and toward their own participation in it. For instance, 100% of HLI students said they would join a Hawaiian club, while 52% of Keaukaha students and 26% of Oahu-X students indicated they would join. Most students stated that they found studying Hawaiian very interesting or about as interesting as most subjects, with HLI students agreeing 100% of the time, Keaukaha-English agreeing 78% of the time, and Oahu-X students agreeing 61% of the time. Eighty-one percent of HLI students said they would take Hawaiian in the next school year if it were up to them, 17% of the Keaukaha students, and 5% of the Oahu-X students.

Summary, Conclusion and Recommendations

Thirteen first grade students at two elementary schools, Keaukaha Elementary School in Hilo, Hawai'i, and Waiau Elementary School in Pearl City, Oahu, formed the top half of the two combination kindergarten and first grade classes of the then new Hawaiian Language Immersion Program in fall 1987. In spring 1993, all 13 plus five (5) additional later entering students, graduated from sixth grade in Hawaiian Language Immersion. The students had been taught through the medium of the Hawaiian language in a total immersion program through the fourth grade, and had continued to be immersed in Hawaiian for all but approximately an hour a day of English language arts and social studies instruction in grade five and six. They had remained in combination classrooms

throughout elementary school, but certain subjects were taught separately by grade level.

The first sixth grade class is unique in a number of ways. It is the smallest group of HLI students, and because it was the first group to go through the program, the scarcity of materials available in Hawaiian has heavily impacted the education of these students. Most of these students attended an English medium kindergarten. In addition, the fact that the program and its curriculum was under development as it was being implemented has affected student learning. Teachers in the program had to be trained to teach in immersion as the program was being implemented, and in some cases, teachers with less than the standard certification taught this group of students. Curriculum areas that were especially impacted by the lack of translated materials on a timely basis, that is, at the beginning of the school year were in the areas of reading-literature and mathematics.

Despite the above shortcomings, the Hawaiian Language Immersion program has been able to promote a high level of fluency in the oral Hawaiian language and has also taught students how to read, write and do mathematics through the medium of the Hawaiian language. The classroom has embodied the Hawaiian culture, many attractively translated books in the Hawaiian language have been provided to students, and Hawaiian traditions have been practiced in the classroom and school. Parents have given volunteer assistance and have repeatedly expressed their satisfaction with their children's participation in the Hawaiian language and culture made possible through the HLI program. Children, in the main, have also expressed their own satisfaction with being a part of HLI.

At the end of grade six, students were assessed on a variety of standardized and alternative measures to ascertain their achievement level. A longitudinal case study approach, where an in-depth knowledge of each site's implementation and of individual students, has been used to evaluate the results of the program. An experimental design could not be used in this study because of the small number of students involved, the self-selected nature of choosing those who would participate in HLI, the many district exceptions in the program, and other reasons. Therefore, the results are reported as descriptive data, and when comparisons are made to other groups, such as the student's home school or state averages, these comparisons are given simply as points of reference and does not imply that the HLI students should be expected to achieve at that level.

Indeed, as the data presented in this report suggests, there is a very wide range of abilities seen in the 18 sixth grade students who finished sixth grade, especially on the standardized test measures, but also observed over the years by teachers and researchers.

It appears that the first 18 students to sixth grade in Hawaiian Language Immersion are achieving at a similar level to their peers in the English medium classrooms in the area of English reading comprehension, writing and mathematics on standardized and alternative measures of achievement. For instance, on the Qualitative Reading Inventory, a sample of 12 students all read at sixth grade or Junior High level in English, and eight of the 12 students read at the sixth grade level in Hawaiian. On the Reading Comprehension subtest of the Stanford Achievement Test (SAT), 28 percent read at a below average level, 61 percent read at an average level, and 11 percent read at an above average level, which surpassed the achievement of the English medium students at one of the two host schools for HLI. Students' English writing on the SAT averaged a stanine 5 which is average according to national norms. The one weak area was English Reading Vocabulary, which tests student knowledge of word meanings more than of "reading" and is tested only in the context of sentence meaning. On the Reading Vocabulary subtest, HLI students scored 56 percent below average, 33 percent average and 11 percent above average. (The national norms are 23 percent for both the below and above average categories and 54 percent for the average category.) Students SAT mathematics scores are higher than their scores in the vocabulary and reading area. On the total mathematics test, which is made up of three subtests, HLI students scored 22 percent below average, 67 percent above average, and 11 percent above average. Students attitudes suggest a high regard for the Hawaiian language and culture and for themselves as speakers of the Hawaiian language.

Differences in the average achievement level of HLI students at the two schools on the SAT vocabulary, reading, and mathematics test was observed. However, differences were not observed in the results on the Qualitative Reading Inventory nor on the SAT writing assessment. The possible reasons for these observed school-site differences are explained in the report and include the fact that the two classes were not equal to begin with, two higher achieving students transferred into the higher scoring school in the last year for sixth grade, test-taking skills were taught at the higher scoring school and not at the other school,

and students at the higher achieving school had participated in more English enrichment activities than had the students at the other school.

Students English reading scores were seen to be much higher when only the Reading Comprehension subtest of the Stanford Achievement Test (SAT), and not the Vocabulary test, was used to evaluate the outcomes of the program. We consider the Reading Comprehension test to be the best and most important measure of reading of the two, but also suggest that teachers explore reasons that the English vocabulary scores were so much lower than the comprehension scores. An examination of SAT scores received on the statewide English SAT testing in 1990 when the students were in grade 3 and still totally immersed in Hawaiian and those received on the 1993 test in grade six also is puzzling and bears further study by teachers and administrators in the program. In all cases, one would expect these scores to improve after students had been receiving English language arts instruction for two years. However, in some cases scores of average or below average HLI students remained about the same, or declined, while those of the highest achieving students increased. Sometimes there were other factors that seemed explanatory in reviewing these differences such as parents attitudes towards English and/or the student's participation in a special program such as the Gifted and Talented English Language Arts pullout program at one school.

For some of the students who received low SAT scores, and higher Qualitative Reading scores, real progress in learning to read in English has been observed over the years. In these cases, the SAT appears to underestimate the students actual ability to read and comprehend. In fact, teachers will need to weigh the results of the SAT with their own observations of student classroom performance, especially for the lower achievers, in evaluating these results.

As mentioned previously, this report is a follow-up study on the achievement of the first cohort of students, and is not a summative evaluation of the Hawaiian language immersion program concept itself. It will be many years before such a summative evaluation report could be written. In this present report we have seen that in the first group there was a wide range of abilities reflected in the achievement results, suggesting that some of the students were in a gifted and talented range, some were in an average range, while others are in a high needs group regarding achievement. It appears that higher achieving students who are late entrants can do very well in Hawaiian language immersion, and also retain a high level of achievement in English. Also, students

who had been immersed in Hawaiian language from preschool and from first grade through sixth were among the highest scoring students in English. However, not all students achieved average scores, and the results suggest that some students will be in need of special help such as tutoring if they are to succeed in the English curriculum in seventh grade and beyond. This variability in results suggests that concerned parents and others will want to follow closely the evaluations over several years of cohorts of the HLI program before any firm conclusions can be made regarding its general impact on the achievement of students of different ability levels.

A caveat is offered in regards to these results in that 18 is a very small group of students upon which to be basing an evaluation. It will be necessary to follow the progress of several more cohorts of increasing numbers of students before we can say what the general impact of Hawaiian language immersion is upon student achievement. For instance, in addition to the 18 sixth grade students mentioned above, in spring 1993 there were 26 students in grade 5, 39 in grade 4, 62 in grade 3 and 106 in grade 2 participating in HLI. It will not be until the present second or third grade students reach sixth grade that there will be a large enough multi-year group for more summative evaluation purposes, as in the past even the fourth grade was far below average class size. Furthermore, the HLI program continues to have serious problems with staffing all classrooms with adequately trained teachers, and providing an adequate supply of Hawaiian language print materials.

Recommendations include the following:

1. It is recommended that the availability of adequate curriculum materials, and of trained teachers who are fluent and proficient in Hawaiian be considered in any planned expansion of the program. There is a need to further refine and develop the curriculum for Hawaiian language immersion at all grade levels, especially for those students who remain in immersion in upper elementary grades. Similarly, the need for more translated materials as students continue into the middle school years, grades 7 and 8, will be enormous. These translated materials in Hawaiian are needed to assist inexperienced teachers in their teaching through the medium of Hawaiian, as well as for students to use in developing higher level proficiency and literacy in the Hawaiian language and the subject matter areas.

2. There is a need to reconsider the instructional practice of teaching English language arts through the Hawaiian language if the goal of the

program is to support English language and literacy equally with Hawaiian in grade 5 and beyond. The results from the one school where this was the procedure suggested that English, which was allocated approximately 45 minutes a day, was further reduced by the classroom practice of having almost all interactive discussion carried out in Hawaiian. It may be preferred if a different teacher, other than the student's Hawaiian immersion teacher, teach the English language arts component so that the two languages can remain separated and not confuse either student or teacher. This would also relieve the HLI classroom teacher from the burden of an additional preparation when his or her curriculum development and planning skills are much more essential to the development of a strong Hawaiian immersion curriculum. As the program grows larger, and has larger numbers of students in grade 5 and beyond, the provision of a separate English language arts teacher may become more feasible.

3. There is a need to consider how and when the first cohorts of HLI students will learn to interact and experience success with their English medium peers in academic classes. At present, the first cohort of students remains in a highly sheltered class of eight (8) students in grade seven at Keaukaha and six (6) grade seven students at Waiau. While these small group sizes allow for an innovative and imaginative approach to the seventh grade immersion curriculum, there is a need for a plan for a successful transition to interacting with other groups of same-age/grade. In addition, while cross-age grouping across several grade levels as seen in the first cohorts of the immersion program has some benefits, the crowding of students into one room and the resulting noise level is another factor to consider in advance planning. Some sort of compromise between almost total immersion or transferring entirely out of immersion, which was done by four (4) of the sixth grade students in entering seventh grade, would give parents and students better alternatives than they now have for secondary education in Hawaiian.

4. Students on the whole are doing very well in their Hawaiian language, cultural, social, and academic development while participating in the HLI program. The program has accomplished a great deal in a short time, and it should continue to be supported. Teachers' dedication and enthusiasm remains high despite the need of some of the teachers for a change of assignment to prevent teacher burnout. New and enthusiastic teachers are being trained to teach in HLI and parents continue to volunteer to help when called upon. However, many areas such as the need for more teacher training, more

experienced teachers, and more plentiful translations of complex materials for upper elementary and secondary students still require enormous developmental effort. It took schools on the mainland at least 10 years to successfully launch Spanish-English bilingual programs, and some Spanish materials and teachers were available from other Spanish -speaking countries. Hawaiian language renewal and revitalization to support the HLI program will take an even greater effort. More resources and better coordination of the resources at hand will be needed before one can say that the HLI is fully implemented.

5. There is a need for the HLI program as a whole to develop a more consistent, and flexible, plan for providing services of various kinds to HLI students with special needs. This includes both the needs of low achieving and high achieving students, as well as meeting other kinds of special needs. At present, each school has worked out a different plan and various strategies for meeting special needs, and/or coping with the dilemma of meeting the special needs of HLI participants. In some cases, students are permitted to remain in HLI while being pulled out to receive English medium learning assistance in a special education classroom, or to participate in an English medium gifted and talented component. In other cases, HLI students (and their parents) are not given the choice about whether or not they want their child to participate in services given through the medium of the English language. In this situation, parents must choose between having their child in HLI or withdrawing them from HLI so that the child may receive English medium special education services. At one school extensive tutoring service in both Hawaiian and English has been provided through the Kamehameha Schools outreach program. After students achieve fluency and a secure command of oral Hawaiian, pullout service through the medium of the English language may benefit some students. While each case must be decided individually, it is suggested that options that have worked well in one location to serve the needs of children, be considered as possible alternatives at all HLI school locations.

Epilogue:
Reflections About the Future of Hawaiian Immersion

Since the beginning of HLI in fall 1987, and of the privately organized Hawaiian immersion preschool, Punana Leo, which preceded it in 1985, the interest and involvement of people in Hawaii, especially of parents of young children as well as students in the Universities, has grown considerably. The immersion schools, both public, and at the preschool level, have themselves

created a need for translators, teachers, and community support for the rebirth of the language. At the same time, the Hawaiian renaissance, which began in the 1960s and 1970s has continued to develop, along with, but seen as a separate from, a political movement towards some form of Hawaiian sovereignty. The sovereignty movement has not been discussed here, partly due to its complexity and space limitations, but also because the HLI program has rather deliberately distanced itself from complex political questions of that sort. For instance, Trask, a leading proponent of Hawaiian nationalism has said:

> *The main problem for our Movement now is the lack of connection between cultural and political actions. . . . At the same time, political people have begun to see cultural revival as more central to psychological de-colonialization than they once believed. Apparently, the simple passage of time has allowed us in the Movement to understand how culture and politics work together in strengthening our people's identification as a people. . . . Put bluntly, the more Hawaiians identify as Hawaiians, the less they are able to live with their identity as Americans and thus, with American ownership of their birthright Hawai'i. (1993, p. 274).*

The above view is one that has not been stated in connection with the immersion program, but suggests one perspective that may be taken. To some extent, HLI students' attitudes on the *What Do You Think? Language and Culture Questionnaire*, indicated a more Hawaiian-centric view than that of a pluralistic attitude. This may have been due to home influences on student opinion, rather than the immersion curriculum, during the year in which the one hundredth anniversary of the overthrow of the Hawaiian monarchy was commemorated. However, in interviews of students, students are likely to say they are just like anybody else. Indeed, HLI parents have expressed different opinions on one of the main issues within the program, that is whether or not to introduce English at an earlier or later grade level than grade five. While the majority of parents, approximately 67%, in a survey conducted in spring 1993 agreed that grade 5 was an appropriate time to introduce English, many of those not agreeing wanted English introduced earlier. In contrast, a few parents felt that since English is so dominant in the society anyway, that as far as they were concerned it need not be used at all, K-12, in the Hawaiian immersion program. However, it appears that Kame'eleihiwa (1992) is correct in speaking for HLI parents when

she said, "The parents want their children to be fluent in both Hawaiian and English and have high expectations (such as completing a university education) for their future success in an English-speaking world" (pp. 111-112).

In the Long Range Plan for the Hawaiian Language Immersion Program (Papahana Kaiapuni Hawai'i) mentioned above, the purposes of HLI have been carefully stated to show a committment to the restoration of Hawaiian as a language which can be used exclusively and/or as a language which can be a full and equal partner to English as a home and family language:

> *One purpose for the Papahana Kaiapuni Hawai'i is to assist in the revitalization of the Hawaiian language and culture and to assist in maintaining usage of the Hawaiian language for people who speak it exclusively.*
>
> *A second purpose is to assist those who wish to integrate into the Hawaiian speaking community. By sending children to Papahana Kaiapuni Hawai'i schools, parents hope to replace their home language with Hawaiian so that they can use Hawaiian in the home and family in future generations.*
> (1994 March, p. 1, Hawai'i State Department of Education)

Part of the long range plan calls for separate K-12 immersion schools in which Hawaiian language is used exclusively, rather than housing HLI in schools where English medium classrooms are also located. The plan, which is a 10 year plan, calls for massive curriculum development, translation, and greatly increased efforts in teacher education in Hawaiian in order to implement that plan. The obstacles are formidable, but the energy and vision is there. Many issues remain to be worked out, and will involve serious dialogue among parents and students concerning their own long range goals for their education, and tough decisions concerning what part and proportion Hawaiian and English language and cultural perspectives will have in the HLI schools of the future. We will close with a statement made by Bernardino (1989) regarding her goals for Hawaiian students, a statement that was made generally to the young people of Hawai'i:

> *I would like to see Hawaiian children think of themselves more as children of the Pacific Ocean than as children of the United States of America. The reason I say that is, I 'm not advocating secession from the U. S. but if you look at any other*

Polynesian kingdom in the Pacific Ocean, the children there, who also learn English are bilingual. . . . They have the build and stature and the carriage of a Polynesian, they know their oral literature, and they are also able to function in the Western World. (Menton & Tamura, 1989, p. 398).

Endnote. The evaluation portion of this paper is from an earlier report by Slaughter, H., Lai, M., Bogart, L., Bobbit, D. U., & Basham, J. L. (1993, December), Evaluation Report for the First Cohort to Complete Sixth Grade in the Hawaiian Language Immersion Program, A Report to the Hawaiian Language Immersion Program, Office of Instructional Services, and to the Planning and Evaluation Branch, Hawai'i State Department of Education. Appreciation is expressed to the research assistants, Bogart, Bobbit and Basham, and translators K. Wong, S. N. Warner, and R. Walk, who assisted with this evaluation.

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